TEXAS A&M UNIVERSITY
COMMERCE
College of Science and Engineering

BSC 497.01E: Special Topics: Ichthyology – Fall 2024

MWF 10:00 – 10:50 am; BA 258

Instructor Information:
Dr. Bjorn Schmidt
Office: STC 212
Email: bjorn.schmidt@tamuc.edu
Preferred contact: email
Office hours: MWF 11:00 am – 11:50 am, or by appointment through email

Textbook (required):

The Diversity of Fishes. Biology, Evolution and Ecology. 3rd edition. 2023. Facey, D, Bowen, B, Collette, B, and Helfman, G.

ISBN: 978-1119341918

Course Description

The objective of this course is to provide students with broad understanding of the field of ichthyology (the study of fishes). The course will examine form and function in fish anatomy, physiology, patterns of life history, reproduction and growth, fish environmental biology, aspects of fish social behavior and predation, fish population and community ecology, fish conservation, and broadly explore freshwater and marine fish taxonomic diversity. The class will also introduce

current field methods in ichthyology and include identification techniques for local, North Texas freshwater fish species.

Course Requirements

Access to a computer and d2l (myleo online) is required; all course materials will be uploaded through d2l

Minimal Technical Skills Needed:

- Proficiency in using the D2L Brightspace Learning Management System in myLEO Online
- Proficiency in using and access to Microsoft PowerPoint

Student Learning Outcomes

- Students will be able to understand functions and patterns of fish anatomy and physiology in relation to specific characteristics of different aquatic environments
- Students will be able to understand broad diversity patterns of fishes as a taxonomic group, including understanding characteristic features of different groups
- Students will understand patterns of fish social behavior, reproduction, and predation
- Students will elucidate common patterns and processes in fish populations and communities
- Students will understand current pressures and conservation strategies for fishes
- Students will know common field methods used in scientific fish surveys
- Students will be able to identify common freshwater fish species in North Texas

Instructional Methods

Instruction will consist of in-class lectures and discussions. Students are also expected to do at home readings corresponding to chapter content covered in the class lectures as shown in the course schedule. PowerPoints for lectures will be made available that day through d2l (myLeo Online). Tests will consist of paragraph, short answer, and/or multiple choice questions. Quizzes will be multiple choice only. Announcements will be presented during class time and will also be announced in d2l system. Gradebooks will be maintained in d2l.

Course Evaluations

Tests: There will be three exams on specific dates and a comprehensive final exam scheduled during finals week. Material for the final exam will be 50% new material that was covered after exam 3 and 50% older material that was covered on exams 1-3.

Quizzes: There will be eight quizzes scheduled on specific dates, corresponding to specific content indicated in the schedule below.

Fish ID Test: Fish identification materials will be presented in class and placed in d2l for common fishes of the Trinity, Sulphur, and Red River drainages in Texas (specific list of fish to know). Afterwards, students will have roughly one month to study these fishes, followed by a fish identification test consisting of photographs with identifiable traits of a sample of the fishes. There will also be a practice session review before the fish ID test

Student Presentation: Students will need to present a short powerpoint in class about one fish species of their choice, including specific details for topics covered earlier in the course. Students will need to inform the instructor of their species choice before preparing the powerpoint to avoid duplicates in the class (species will be assigned to students on a first-come, first taken basis). More details about the presentation will be given later in the semester in class.

Grading

A: 89.96-100%
B: 79.96-89.95%
C: 69.96-79.95%
D: 59.96-69.95%
F: <59.96%

Evaluation Points

Three Exams - 300 points (100 points each)
Final Comprehensive Exam - 150 points
Eight Quizzes - 120 points (15 points each)
Fish ID Test - 50 points
Student Presentation - 50 points

Total points = 670

General Makeup Policy: The student is responsible for requesting a makeup when they are unable to submit the regularly scheduled assessment before the due date and must schedule the makeup by email within **2 days** after the class date. If the assessment is not made-up, the student will receive a zero for that item. Late assignments without pre-communicated make-up approval as detailed above will be graded with a late penalty applied based on how many days late the submission was made.

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

Tentative Course Schedule (subject to change)

Week of	Topics (Book Chapters)	Assignment due dates
08/26	Topics: M: Welcome/Syllabus; (Ch1) Science of Ichthyology W: Ch2: Diversity of Fishes F: Ch3: Fish Anatomy: Structure and Function	
09/02	Mon: **Labor Day; no class** W-F: Ch3-4: Fish Anatomy: Structure and Function	**Fri:** Quiz 1 (Chs 1-3)
09/09	M-W: Ch5: Circulation, Gas Transport, Metabolism, Digestion & Energetics W-F: Ch6: Nervous System and Sensory Organs	**Fri:** Quiz 2 (Chs 4-6)
09/16	**M: Exam One**: Ch 1-6 W-F: Ch7: Homeostasis F: Ch8: Reproduction (also Ch 17 - pg. 388-406)	**M: Exam One** (Chs 1-6)
09/23	M-W: Ch8: Reproduction (also Ch 17 - pg. 388-406) W-F: Ch9: Fish Age Classes and Growth	**Fri:** Quiz 3 (Chs 7-9)
09/30	M-W: Ch11: History of Fishes W-F: Ch12: Chondrichthyes	

10/07	M-W: Ch13: Living Representatives of Primitive Fish **F: Exam Two** (Chs 7-9, 11-13)	**Wed:** Quiz 4 (Chs 11-13) **F: Exam Two** (Chs 7-9; 11-13)
10/14	M-W: Ch14: Teleosts part one W-F: Ch15: Teleosts part two	
10/21	M-W: Aquatic field methods and North Texas Fish Identification F: Ch10: Special Habitats & Special Adaptations	**Mon:** Quiz 5 (Chs 14-15)
10/28	M: Ch10: Special Habitats & Special Adaptations M-W: Ch16: Predators and Prey F: Ch17: Fishes as Social Animals (pg 406-422)	**Wed:** Quiz 6 (Field methods; Chs 10 & 16)
11/04	**M: Exam Three** (Field methods; Ch14-15; 10; 16-17) W-F: Ch18: Cycles of Activity and Behavior F: Ch19: Zoogeography and Phylogeography	**M: Exam Three** (field methods; Chs 14,15,10,16-17)
11/11	M: Ch19: Zoogeography and Phylogeography M-W: Ch20: Fish populations F: Ch21: The Functional Role of Fishes in Communities and Ecosystems	**Wed:** Quiz 7 (Chs 18-19)
11/18	M: Ch21: The Functional Role of Fishes in Communities and Ecosystems M-W: Ch22: Fish conservation F: Local Fish Identification Review	**Fri:** Quiz 8 (Chs 20-22)

11/25	**M: Fish Identification Test** W: no-class; study for final or work on class presentations Thu-Fri: **Thanksgiving break; no class**	**M: Fish ID Test**
12/02	Mon: no class (study for final or work on class presentation) **Wed: student presentations** Fri: overflow/extra day	**Wed: student presentations**
12/09	**Final Exam – Wed., Dec 13th** 8:00am – 10:00am STC 210 50% review; 50% Chs 18-22	**Wed: Final Exam**

Technology Requirements:

LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the *my*LEO Online Learning Management System (LMS). Below are technical requirements:

LMS Requirements:
https://community.brightspace.com/s/article/Brightspace-Platform-Requirements

LMS Browser Support:
https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

Access and Navigation
You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu

Communication and Support
If you have any questions or are having difficulties with the course material, please contact your Instructor.

Technical Support

If you are having technical difficulty with any part of *Brightspace*, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

https://community.brightspace.com/support/s/contactsupport

Interaction with Instructor Statement

Response time to any questions sent by email regarding the course will be answered within 72 hours. However, students are encouraged to interact with the instructor directly during the class time and office hours, if necessary. Exceptions such as widespread internet outage apply.

Counseling Services Statement

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel

Course and University Procedures/Policies:

Course Specific Procedures/Policies:
You are expected to check your TAMUC email and d2l every day to check for any announcements. Additional information about all course assessment components is provided under "Course Evaluations". Please do not attend class if feeling ill, if an illness occurs during a course assessment, please see the "General Makeup Policy" section above for guidance.

University Specific Procedures:

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook. http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuideboo k.aspx

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: Netiquette http://www.albion.com/netiquette/corerules.html

TAMUC Attendance

For more information about the attendance policy please visit the Attendance webpage and Procedure 13.99.99.R0.01.
http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf

Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf

Graduate Student Academic Dishonesty 13.99.99.R0.10

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf

AI Statement

Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty
https://inside.tamuc.edu/aboutus/policiesproceduresstandardsstatements/rulesprocedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf

13.99.99.R0.10 Graduate Student Academic Dishonesty
https://inside.tamuc.edu/aboutus/policiesproceduresstandardsstatements/rulesprocedures/13students/graduate/13.99.99.R0.10.pdf

Students with Disabilities – ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library- Room 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@tamuc.edu
Website: Office of Student Disability Resources and Services
http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/

Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&MCommerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.

Web url:
http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.
at 903-886-5868 or 9-1-1.